

[SPLIT GATE FLASH MEMORY CELL AND MANUFACTURING METHOD THEREOF]

Abstract

A split gate flash memory cell includes a substrate having a trench, a stack structure disposed on the substrate, wherein the stack structure includes a tunneling dielectric layer, a floating gate and a cap layer; a first inter-gate dielectric layer and a second inter-gate dielectric layer disposed on the sidewalls of the stack structure, wherein the first inter-gate dielectric layer is contiguous to the top of the trench; a selective gate disposed on the sidewalls of the first inter-gate dielectric layer and the trench; a selective gate dielectric layer disposed between the selective gate and the substrate; a source region configured in the substrate beside the side of the stack structure with the second inter-gate dielectric layer; and a drain region configured at the bottom of the trench beside one side of the selective gate.